Abstract of the Disclosure

In recent years, it has become increasingly common to transmit sequences of digital images (video data) from one point to another, particularly over computer networks, such as the World-Wide-Web portion of the Internet. To reduce transmission times, computers and other devices that transmit and receive video data often include a video encoder that encodes or compress the data based on the redundancy or similarity between consecutive video frames. Many encoders use motion estimation as a key part of the compression. However, motion estimation itself can be time consuming to perform. Accordingly, the present inventor devised some unique techniques that allow for faster motion estimation. One exemplary technique subsamples a search area of a reference frame to find a set of blocks that have a line of pixels similar to a line of pixels in a target block of another frame. The set of blocks found based on the line similarity are then compared in greater detail to the target block to determine the one best suited for estimating a motion vector for the target block.

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